

IN THE CLAIMS

Claims 1-118 (cancelled)

Claim 119 (new): A method for treatment of urinary incontinence, comprising:

coupling an electrode to cause contraction of a pelvic muscle of a patient responsive to application of electrical energy to the electrode;

receiving a signal from the patient's body indicative of impending urine flow;

analyzing the received signal to distinguish between a signal indicating that incontinence is likely and another signal indicative of voluntary voiding; and

responsive to the analysis, applying an electrical waveform to the electrode, which stimulates the muscle to contract so as to inhibit incontinence,

wherein the incontinence comprises stress incontinence.

Claim 120 (new): A method for treatment of urinary incontinence, comprising:

coupling an electrode to cause contraction of a pelvic muscle of a patient responsive to application of electrical energy to the electrode;

receiving a signal from the patient's body indicative of impending urine flow;

analyzing the received signal to distinguish between a signal indicating that incontinence is likely and another signal indicative of voluntary voiding; and

responsive to the analysis, applying an electrical waveform to the electrode, which stimulates the muscle to contract so as to inhibit incontinence,

wherein distinguishing between the signals comprises distinguishing responsive to a rate of change of the received signal.

Claim 121 (new): A method for treatment of urinary incontinence, comprising:

coupling an electrode to cause contraction of a pelvic muscle of a patient responsive to application of electrical energy to the electrode;

receiving a signal from the patient's body indicative of impending urine flow;

analyzing the received signal to distinguish between a signal indicating that incontinence is likely and another signal indicative of voluntary voiding; and

responsive to the analysis, applying an electrical waveform to the electrode, which stimulates the muscle to contract so as to inhibit incontinence,

wherein distinguishing between the signals comprises gathering information regarding the received signal over an extended period and analyzing the information to detect a pattern characteristic of the patient, for use in determining when incontinence is likely.

Claim 122 (new): A method according to claim 121, wherein the pattern comprises a time-varying threshold to which a level of the received signal is compared.

Claim 123 (new): A method for treatment of urinary incontinence, comprising:

coupling an electrode to cause contraction of a pelvic muscle of a patient responsive to application of electrical energy to the electrode;

receiving at a sample rate substantially greater than 1000 Hz signals indicative of imminent urination;

analyzing the signals so as to determine when incontinence is likely; and

responsive to the analysis, applying an electrical waveform to the electrode, which stimulates the muscle to contract so as to inhibit incontinence.

Claim 124 (new): A method according to claim 123, wherein analyzing comprises distinguishing between a signal indicating that involuntary urine flow is likely and another signal indicative of voluntary voiding.

Claim 125 (new): A method for treatment of urinary incontinence of a patient, comprising:

implanting an electrode so as to cause contraction of a pelvic muscle of a patient responsive to application of electrical energy to the electrode;

receiving a signal from the patient's body indicative of imminent incontinence; and

responsive to the signal, applying an electrical waveform to the electrode, which stimulates the muscle to contract so as to inhibit incontinence.

Claim 126 (new): A method according to claim 125, wherein the incontinence comprises urge incontinence.

Claim 127 (new): A method according to claim 125, wherein the incontinence comprises stress incontinence.

Claim 128 (new): A method according to claim 125, wherein implanting the electrode comprises implanting the electrode in the pelvic muscle.

Claim 129 (new): A method according to claim 125, wherein applying the waveform comprises varying a parameter of the waveform selected from the group consisting of: amplitude, frequency, duration, wave shape and duty cycle.

Claim 130 (new): A method according to claim 125, wherein applying the waveform comprises applying a pulse burst.

Claim 131 (new): A method according to claim 125, wherein the pelvic muscle comprises the levator ani muscle.

Claim 132 (new): A method according to claim 125, wherein the pelvic muscle comprises the urethral sphincter muscle.

Claim 133 (new): A method according to claim 125, wherein implanting the electrode comprises implanting an electrode in proximity to the urethral sphincter muscle.

Claim 134 (new): A method according to claim 125, wherein applying the waveform comprises applying a waveform to the electrode in a unipolar mode.

Claim 135 (new): A method according to claim 125, wherein implanting the electrode comprises placing at least two electrodes in electrical contact with the muscle, and wherein applying the waveform comprises applying a waveform between the electrodes in a bipolar mode.

Claim 136 (new): A method according to claim 125, wherein receiving the signal comprises receiving a signal indicative of pressure on the patient's bladder.

Claim 137 (new): A method according to claim 125, wherein receiving the signal comprises receiving a signal indicative of motion of the patient's bladder.

Claim 138 (new): A method according to claim 125, wherein receiving the signal comprises receiving an electromyographic (EMG) signal.

Claim 139 (new): A method according to claim 138, wherein applying the electrical waveform comprises applying the waveform responsive to an average magnitude of the EMG signal.

Claim 140 (new): A method according to claim 139, wherein applying the waveform responsive to the average magnitude comprises determining whether the average magnitude of the EMG signal exceeds a designated threshold.

Claim 141 (new): A method according to claim 125, and comprising determining a time of voiding, wherein applying the electrical waveform comprises applying the waveform at a designated time interval subsequent to the time of voiding.

Claim 142 (new): A method according to claim 125, wherein implanting the electrode comprises coupling the electrode to a nerve which innervates the pelvic muscle.

Claim 143 (new): A method according to claim 142, wherein the nerve comprises a sacral nerve.

Claim 144 (new): A method according to claim 125, and comprising receiving a signal indicative of a fill level of the patient's bladder, wherein applying the electrical waveform comprises applying a waveform responsive to the fill level.

Claim 145 (new): A method according to claim 144, wherein applying the waveform responsive to the fill level comprises withholding application of the waveform when the fill level is low, notwithstanding the signal indicative of imminent incontinence.

Claim 146 (new): A method according to claim 125, wherein applying the waveform comprises analyzing the signal to determine when an involuntary urine flow is likely, and applying a waveform responsive to the determination.

Claim 147 (new): A method according to claim 146, wherein analyzing the signal comprises analyzing substantially non-rectified data.

Claim 148 (new): A method according to claim 146, wherein analyzing the signal comprises analyzing signals at a sample rate substantially greater than 1000 Hz.

Claim 149 (new): A method according to claim 146, wherein analyzing the signal comprises performing a spectral analysis.

Claim 150 (new): A method according to claim 149, wherein performing the spectral analysis comprises performing the spectral analysis on substantially non-rectified data.

Claim 151 (new): A method according to claim 146, wherein analyzing the signal comprises distinguishing between a signal

indicating that incontinence is likely and another signal indicative of voluntary voiding.

Claim 152 (new): A method according to claim 151, wherein distinguishing between the signals comprises gathering information regarding the signals over an extended period and analyzing the information to detect a pattern characteristic of the patient, for use in determining when incontinence is likely.

Claim 153 (new): A method according to claim 152, wherein analyzing the information comprises finding a time-varying threshold to which a level of the signals is compared.

Claim 154 (new): A method according to claim 151, wherein distinguishing between the signals comprises distinguishing responsive to a rate of change of the signals.

Claim 155 (new): A method for treatment of urinary incontinence, comprising:

receiving a signal indicative of a fill level of a patient's bladder; and

applying stimulation to a pelvic muscle of the patient when the fill level of the bladder is above a threshold level, so as to inhibit incontinence.

Claim 156 (new): A method according to claim 155, wherein applying the stimulation comprises applying an electrical waveform to an electrode in contact with the pelvic muscle, thereby stimulating the muscle to contract and inhibiting incontinence.

Claim 157 (new): A method according to claim 155, wherein receiving the signal comprises receiving a pressure signal.

Claim 158 (new): A method according to claim 155, wherein receiving the signal comprises receiving an ultrasound signal.

Claim 159 (new): A method according to claim 155, and comprising receiving a further signal indicative of a likelihood of imminent incontinence, wherein applying the stimulation comprises applying stimulation responsive to the likelihood of imminent incontinence except when the fill level of the bladder is below the threshold level.

Claim 160 (new): A method according to claim 159, wherein receiving the signal comprises receiving an electromyogram signal from an electrode in contact with the pelvic muscle, wherein the signal is indicative of the likelihood of imminent incontinence and of the fill level.

Claim 161 (new): A method for treatment of urinary incontinence, comprising:

coupling an electrode to cause contraction of a pelvic muscle of a patient responsive to application of electrical energy to the electrode;

receiving electromyogram signals from the electrode indicative of a likelihood of imminent incontinence;

determining a threshold level of the signals that varies over time responsive to a condition of the patient; and

responsive to a transient increase in the signals above the threshold level, applying an electrical waveform to the electrode which stimulates the muscle to contract, so as to inhibit incontinence.

Claim 162 (new): A method according to claim 161, wherein determining the threshold level comprises determining a level that varies over time responsive to temporal variation of a mean value of the electromyogram signals.

Claim 163 (new): A method according to claim 161, wherein determining the threshold level comprises increasing the

threshold level responsive to time elapsed since the patient last passed urine.

Claim 164 (new): A method according to claim 161, wherein determining the threshold level comprises increasing the threshold level responsive to an increase in a fill level of the patient's bladder.

Claim 165 (new): A method for treatment of urinary incontinence, comprising:

coupling an electrode to cause contraction of a pelvic muscle of a patient responsive to application of electrical energy to the electrode;

receiving electromyogram signals from the electrode indicative of a likelihood of imminent incontinence;

determining a rate of change of the signals; and

responsive to the rate of change, applying an electrical waveform to the electrode which stimulates the muscle to contract, so as to inhibit incontinence.

Claim 166 (new): A method according to claim 165, wherein applying the waveform comprises applying a waveform when the rate of change is above a threshold rate, and comprising withholding the waveform when the rate of change is below the threshold rate, so as to allow voluntary voiding.